River and station	Flood stage	Above flood stages—dates		Crest	
		From-	То—	Stage	Date
MISSISSIPPI DRAINAGE—continued	Feet			Feet	
Monongahela: Lock No. 15, Hoult, W. Va	22	12	13	27.8	12
Lock No. 15, Hoult, W. Va. Lock No. 10, Morgantown, W. Va. Lock No. 7, Martin, Pa.	25	12	13	27. 7	12
Lock No. 7, Martin, PaLock No. 4, Pa	30 31	12	13	38. 6 40. 8	12
Cheat:		-			
Rowlesburg, W. VaYoughiogheny:		12	12	12. 3	12
Confluence, Pa	10	12	12	11.8	12
Ohio: Pittsburgh, Pa	22	13	14	26.4	13
Lock No. 2, Coraopolis, Pa	26	13 13	13 14	26. 0 35. 5	13 13
Dam No. 6, Beaver, Pa Marietta, Ohio	33	14	16	35.8	15
Parkersburg, W. Va. Dam No. 22, Ravenswood, W. Va.	36	15	16	37.4	15 15
Point Pleasant, W. Va	42 40	15 14	15 17	42.0 45.4	15
Dam No. 29, Normal, Ky	50	15	17	51. 2	16
Evansville, Ind Henderson, Ky	35 33	20 21	24 24	36. 5 33. 9	22 22-23
Dam No. 48, Cypress, Ind	42	22	23	42.4	22
Muskingum: Marietta, Ohio	36	15	15	37.4	15
Tuscarawas:				ľ	
Gnadenhutten, OhioLittle Kanawha:	l	15	16	10.8	16
Glenville, W. VaCreston, W. Va	23 20	12 13	13 13	29. 7 23. 4	13 13
Kanawha: Charleston, W. Va	i	13	13	30.0	13
Kik.					l
Clay, W. Va	18	12	13	23. 6	12
Edwardsport, Ind	14	(1)	2	16. 1	Apr. 30
Illinois: Henry, Ill Beardstown, Ill	7	8	20	13. 5	Apr. 5
Meramee:	l .	29	12 (²)	17. 6 17. 5	Apr. 9
Pacific, MoValley Park, MoBourbeuse:	1	29	(3)	19. 5	31
Union, MoArkansas:		29	(2)	14. 1	31
Wichita, Kans Fort Smith, Ark	9	(1)	1	10.8	Apr. 30
Dandanelle, Ark	22 20	1 1	3	23. 0 21. 2	2 3
Little Arkansas:			-		
Sedgwick, KansPetit Jean:	18	(1)	(3)	• • • • • • • • • • • • • • • • • • • •	
Danville, Ark	20	(1)	4	24. 7	1
Black: Black Rock, Ark	14	1	1	14.0	1
Cache:			_		
Patterson, ArkSulphur:	9	7	9	9. 2	8-9
Ringo Crossing, Tex	20	27	(2)	25, 1	30-31
North Platte: North Platte, Nebr	5	7	11	5, 3	10
Osage: Warsaw, Mo	22	31	31	22. 7	31
·	22	91	91	22.1	31
WEST GULF DRAINAGE Trinity:					
Dallas, Tex	∫ 25	ω.	(a)		<b>-</b>
Trinidad Tax	∖ <sub>28</sub> ՝	27	29	31.0	28 4
Trinidad, TexLiberty, Tex	25 25	3	5 6	29. 4 26. 6	3-4
Guadalupe:					10
Victoria, TexRio Grande:	16	18	18	17. 1	18
Albuquerque, N. Mex	4 2	(¹)	14	4. 0 4. 8	13-14 17-18
COLORADO DRAINAGE		()	(4)	4. 0	17-10
Colorado:		İ			
Lees Ferry, Ariz	12	7	(1)	14. 4	23-24
Parker, Ariz	7	(1)	1	7.0	20 07
PACIFIC DRAINAGE		11	(3)	8.9	26-27
Columbia:			(n	90.7	97_90
Marcus, Wash Vancouver, Wash	24 15	20 24	(³) 30	26. 7 15. 3	27-28 28-29
Clearwater: Kamiah, Idaho		i			13
ABIIIMI, 19889	14	13	14	14. 1	13

## MEAN LAKE LEVELS DURING MAY, 1924

## By United States Lake Survey

[Detroit, Mich., June 5, 1924]

The following data are reported in the "Notice to Mariners" of the above date:

Data	Lakes 1					
	Superior	Michi- gan and Huron	Erio	Ontario		
Mean level during May, 1924: Above mean sea level at New York Above or below—	Feet	Feet	Feet	Feet		
	601. 19	579. 24	572. 16	246. 10		
Mean stage of April, 1924	+0. 17	+0.37	+0.39	+0.74		
Mean stage of May, 1923	-0. 38	-0.38	+0.34	+0.45		
Average stage for May last 10 years	-0. 90	-1.35	-0.46	-0.36		
Highest recorded May stage  Lowest recorded May stage  Average relation of the May level to—	-1, 86	-4. 28	-2, 26	-2. 85		
	+0, 37	-0. 32	+0, 85	+1. 14		
A pril level		+0.3	+0.4	+0.3		
June level		-0.2	-0.2	-0.2		

<sup>&</sup>lt;sup>1</sup> Lake St. Clair's level: In May, 1924, 574.56 feet.

## EFFECT OF THE WEATHER ON CROPS AND FARMING OPERATIONS. MAY-1924

## By J. B. KINCER

The month of May was decidedly unfavorable for agricultural interests in much the greater portion of the country, except that grass and winter grains made rather satisfactory progress in most districts. The weather was persistently cool in nearly all sections east of the Rocky Mountains, and there was too much rain in many localities, especially in parts of the South, and generally from the Ohio Valley northward and eastward. West of the Rocky Mountains severe drought and unseasonably warm weather obtained, which was very detrimental to all dry-land crops, especially to the small grains. Irrigated crops made good progress, but at the same time there was a heavy drain on the water supply, which was becoming short in many sections.

Corn planting was very greatly delayed by the cool weather and frequent showers in central districts east of the Mississippi River. Much corn remained to be planted in the Ohio Valley and Middle Atlantic States at the close of the month, some States reporting that only about half of the crop had been put in. Germination was also unsatisfactory, necessitating much replanting. Between the Mississippi River and Rocky Mountains the drier weather permitted better progress in planting, but it continued too cool for germination and growth in most sections. Corn came up to a fairly good stand in Missouri but was off color, and the general condition in Iowa at the close of the month was very

Winter grains made fairly good growth in most of the principal producing areas, under the influence of the cool, moist weather. During the middle portions of the month moisture was deficient in the western winterwheat belt, especially in Kansas where some deterioration of the crop was reported. Good rains fell the latter part of the month, however, in this area, which materially

Continued from last month.
 Continued at end of month.
 Below flood stage at 8 a. m., May 1.

improved conditions. West of the Rocky Mountains, the lack of moisture seriously damaged winter wheat. The growth of spring wheat was slow because of cool weather, but the general condition of this crop was satisfactory at the close of the month, and it was stooling well. There was some damage to flax by frost in the northern Plains States, but the harm was not material, and the crop had come up to a good stand. Oats were generally late and unfavorable affected by the weather in some of the heavy producing areas, with seeding very backward from the Lake region eastward.

Rainfall was rather unevenly distributed in the Cotton Belt, with too much moisture in some portions. It was too wet in the northern portion of the belt the latter part of the month, and the weather was persistently cool. These conditions were decidedly unfavorable for cotton, although the somewhat warmer weather, especially the warmer nights, was more favorable in the southern portion. Early-planted cotton deteriorated in Texas, though the crop made very good progress in central and southern portions during part of the month. Stands were irregular and growth slow in Oklahoma, and the plants were very uneven in Arkansas.

The warmer weather the latter part of the month was rather favorable in Louisiana, though the crop was generally backward and the stands poor in the northern portion of the State. Growth was slow in Mississippi, and poor to only fair in Alabama. In southern Georgia sufficient dry weather permitted cultivation in the southern portion of the State where the stands were very good, but it was too wet and cold in the northern portion. The cool, wet weather was very unfavorable in the more northeastern portions of the belt, and stands were only fair in South Carolina where considerable replanting was necessary.

Truck and garden crops were very backward in all central and eastern portions of the country, but grass made fairly good progress by reason of generally ample rainfall. West of the Rocky Mountains the lack of moisture was unfavorable for range land and pastures were poor. Rains benefited ranges the latter part of the month in the central Rocky Mountain area.

The condition of fruit remained generally satisfactory east of the Rocky Mountains, though there was some frost damage in the Lake region. Late estimates from portions of the far Northwest, especially eastern Washington, indicated much greater damage to fruit from the previous freezes than had been thought. There was almost a total loss of peaches and apricots in the Walla Walla district, and serious reduction to other fruits in that section.